



# **BEA Address Construct and Supporting Leading Practices/Standards**

April 1, 2010

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# Agenda

Acquisition, Technology and Logistics

- Net-Centric Requirements
- Source and Type
- History
- BEA Address Attributes
- Benefits
- Leading Practices and Standards



# Net-Centric Requirements

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- **DoDD 8320.02** Data Sharing in a Net-Centric Department of Defense
  - 4.6 “Data interoperability shall be supported by making data assets understandable and by enabling business and mission processes to be reused where possible.”
  - 5.6. “The Heads of the DoD Components shall: Ensure implementation of Net-Centric data sharing, including establishing appropriate plans, programs, policies, processes, and procedures consistent with policies herein.”
  - E1.1.17. “Netcentricity is a robust, globally interconnected network environment (including infrastructure, systems, processes, and people) in which data is shared timely and seamlessly among users, applications, and platforms.”
- **DoDI 4630.8** Procedures for Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)
  - 4.0. It is DoD policy that: IT and NSS employed by U.S. Forces shall, where required (based on capability context), interoperate with existing and planned, systems and equipment, of joint, combined and coalition forces and with other U.S. Government Departments and Agencies, as appropriate.
  - 5.8.4. The Heads of the DoD Components shall: Ensure IT and NSS interoperability, supportability, and information assurance is designed, developed, tested, evaluated, and incorporated into all DoD Component IT and NSS. When necessary, recommend tradeoffs among operational effectiveness, operational suitability, information assurance, and IT and NSS interoperability and supportability to the USD(AT&L), the ASD(NII)/DoD CIO, the Chairman of the Joint Chiefs of Staff, and the Commander, USJFCOM.
- **PL 104-113:** National Technology Transfer and Advancement Act of 1995 and OMB Circular A-119 directs federal agencies to use voluntary consensus standards [such as ISO 3166] in lieu of government-unique standards [such as FIPS 10-4] in their procurement and regulatory activities, except where inconsistent with law or otherwise impractical.



# Address Type and Source

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- General Address Types include:
  - Physical: for example a Thoroughfare (Street) Address
    - o For example: 20 North Main Street, Suite 101
  - Non Physical: for example a Postal Address
    - o Including PO Box addresses, rural delivery addresses, etc
    - o Many DoDAACs can share the same physical address
    - o E-Mail addresses may not be linked to any physical address
- RPILM looks at address as one of the physical attributes of a real property asset
  - Assigned by government authority (in DoD by Real Property AO)
  - Can have one or more over the life of the real property asset



# Output versus Data Structure

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- The output format is familiar to everyone:
  - Mr Jones
  - 20 North Main Street, Suite 101
  - Columbus, Ohio 43214-1234
- The underlying data structure is the issue:
  - Recipient Name = "Mr Jones"
  - Street Number = "20"
  - Street Direction = "North"
  - Street Name = "Main"
  - Street Type = "Street"
  - City = "Columbus"
  - State = "Ohio"
  - Zip Code = "43214-1234"



# BEA Address Construct Attributes

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- Instead of two text lines, the BEA decomposes street address into the following attributes:
  - **Street Number**
  - **Street Name**
  - **Street Type**
  - **Street Direction**
  - City \*
  - Postal Zone (zip code)\*
  - Country Primary Subdivision (state) \*
  - Country Subdivision (county) \*
  - Country \*
- \* Data elements generally accepted, and not included in later slides

Data elements in **Green** are BEA street address or equivalent



# Benefits of the BEA Decomposed Address Construct

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- **Compliance benefits:**
  - Automated address validation
  - Automated identification of duplicate addresses
  - Greater chance of match against USPS zip+4 barcode databases
  - Reduced likelihood of undeliverable addresses
  - Automated error checking to ensure use of standards (e.g., abbreviations)
  - Interoperability of address information across multiple organizations
  - Efficient linkages to geospatial information leading to more robust and accurate geopolitical information
  - Single DoD address construct enables single point of data entry by the authoritative source, eliminates redundant address maintenance, and results in improved cost efficiencies and data accuracy
- **Research reveals:**
  - Decomposed street addresses are the pervading leading practice that is either in development or has been implemented across multiple government and non-governmental organizations
  - Majority of street address standards are more complex than what is articulated in the BEA.



# Examples of Leading Practices and Standards

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- The Address Standards Working Group sponsored by Urban and Regional Planning Information Systems Association (URISA), National Emergency Number Association (NENA), Federal Geographic Data Committee (FGDC), and the U.S. Census Bureau has developed and has out for public comment the “U.S. Thoroughfare, Landmark, and Postal Address Data Standard”
- Thoroughfare Address Class:
  - Complete Address Number
    - {Address Number Prefix} + **{Address Number}** + {Address Number Suffix}
  - Complete Street Name
    - {Street Name Pre Modifier} + {Street Name Pre Directional} + {Street Name Pre Type} + **{Street Name}** + **{Street Name Post Type}** + **{Street Name Post Directional}** + {Street Name Post Modifier}





# Examples of Leading Practices and Standards Continued

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- The UPU S-42-5, Feb 2006, International Postal Address Components and Templates, is an international postal standard was issued by the Universal Postal Union in 2003. It decomposes its thoroughfare address construct (page 19) into:
  - **Street Number or Plot**
  - Preceding Thoroughfare Qualifier
  - **Thoroughfare Name**
  - **Thoroughfare Type**
  - **Succeeding Thoroughfare Qualifier (e.g. North, SW, Upper, etc)**



# Examples of Leading Practices and Standards Continued

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- The USPS Pub 28, Postal Addressing Standards, is the US postal standard and was issued by the US postal Service in July 2008. It addresses both format and content.
- Format describes how the various elements appear on the mailpiece.
- Content describes the content that constitute the various address elements. It's street address elements (pages 9 & 36) are:
  - **Primary Address Number**
  - Predirectional
  - **Street Name**
  - **Suffix**
  - **Postdirectional**



# Examples of Leading Practices and Standards Continued

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- The International Digital Enterprise Alliance (IDEA) Address Data Interchange Specification (ADIS) is an open specification for the domestic and international interchange of address data. Version 7-1 is out for comment and will update version 4-1. ADIS delivery address subcomponents include:
  - **Primary House Number**
  - Primary House Type
  - Primary House Indicator
  - Primary Preceding Street Type
  - Primary Preceding Street Qualifier
  - Primary Street Name Prefix
  - **Primary Street Name**
  - **Primary Succeeding Street Type**
  - **Primary Succeeding Street Qualifier**



# Examples of Leading Practices and Standards Continued

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- The Organization for the Advancement of Structured Information Standards (OASIS) eXtensible Address Language (2002) decomposes its thoroughfare address construct as follows:
  - **Thoroughfare Number**
  - Thoroughfare Number Prefix
  - Thoroughfare Number Suffix
  - Thoroughfare Pre Direction
  - Thoroughfare Leading Type
  - **Thoroughfare Name**
  - **Thoroughfare Trailing Type**
  - **Thoroughfare Post Direction**



# Questions

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- What address standards are currently in use throughout DoD, by community?
- What versions of each of the standards are in use in DoD?
- What impediments to change exist?
- What can be done to reach the goal of address interoperability?